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*June 14, 2005*

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APPLICATION NUMBER: 60/531,647  
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Certified by

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# PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

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INVENTOR(S)					
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)			
Mark Gilmore	Mears	Zionsville, Indiana			
Bret David	Hawkins	Brownsburg, Indiana			
<input checked="" type="checkbox"/> Additional inventors are being named on the 1 separately numbered sheets attached hereto					
TITLE OF THE INVENTION (500 characters max)					
SELECTABLE CHANNEL SEARCH					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
<input type="checkbox"/> Customer Number					
OR					
<input checked="" type="checkbox"/> Firm or Individual Name		JOSEPH S. TRIPOLI, THOMSON LICENSING INC.			
Address		PATENT OPERATIONS			
Address		P. O. BOX 5312			
City		PRINCETON	State	NJ	ZIP 08543-5312
Country		USA	Telephone	609 - 734-6834	Fax 609 - 734-6888
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METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT					
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<input type="checkbox"/> A check or money order is enclosed to cover the filing fees					
<input checked="" type="checkbox"/> The Director is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: 07-0832					
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.					
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input type="checkbox"/> No.					
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Respectfully submitted,  
SIGNATURE

TYPED or PRINTED NAME BRIAN J. CROMARTY

TELEPHONE 609 734 6804

Date

12/22/03

REGISTRATION NO.  
(if appropriate)

see attached

Docket Number:

PU030310

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**Docket Number**      **PU030310**

Number 2 of 2

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## SELECTABLE CHANNEL SEARCH

Automatically searching for all available channels in a multi-signal HDTV (NTSC, ATSC, QAM) takes a very long time because of all the variables that must be examined by the TV. The typical method of finding a TV's channels consists of scanning all possible frequencies for all possible channels. In order to speed up the channel search, flexible options are offered to the user so that he may select only those search options that he wants. This eliminates unwanted searches and saves time.

At a minimum, an HDTV (or HDTV set-top box tuner) is able to receive and decode ATSC signals (i.e., so-called digital-TV signals). ATSC major channels 0 to 999 need to be searched for available channels. In addition, for each ATSC major channel, minor channels 1-999 need to be searched. If the HDTV is able to receive and decode 64QAM and 256QAM digital-cable channels, the major and minor channels of those signal formats need to be searched too. And if the HDTV is able to receive and decode NTSC signals too, then the TV must search for those available channels. If the HDTV has more than one RF input (e.g., one for cable and one for over-the-air signals), then the channel search becomes even longer if both are searched. A channel search is made longer, too, if channels that have already been found are "found" again, and if the HDTV has to detect whether the signal is cable or antenna.

In the RCA ATC311 HDTV chassis (a.k.a., DM2), channel search time was decreased by offering a second channel search option which only searched the currently-tuned antenna and did not do autodetection of cable or air signal since it simply used the current air or cable configuration.

The selectable channel search will allow the user to configure numerous items to search for, allowing him to customize or optimize the search for his particular setup or needs. This could save considerable time for the channel search. This allows maximum flexibility in either making the search as quick or as complete as possible. Examples of various items to select include which tuners to search (e.g. Cable, Air, Antenna A, Antenna B, etc.), digital channels, analog channels, previously found channels, and cable versus air detection. Other search items may also exist. This selectable channel search could be implemented in various manners. One example is as follows as implemented in the ATC32x chassis.

The user is offered a "Channel Search" TV screen with six checkboxes. A checkbox is a control element whose selection is not mutually exclusive to other related selections.

The first two checkboxes allow the user to select which of the two RF inputs should be searched for available channels, or if both RF inputs should be searched. In the case of the ATC32x HDTV chassis, the RF inputs are named "Cable Input" and "Antenna Input". Searching only one of the RF inputs would be useful if the user only has one RF signal to provide for the TV, or if a change recently occurred to one of the RF signals (e.g., change in the analog cable-TV lineup or mapping).

The third and fourth checkboxes allow the user to select whether to search for digital channels, analog channels, or both. If the "Digital channels" checkbox is selected, then only digital channels (i.e., ATSC, 64QAM, 256QAM) are searched; NTSC channels (i.e., analog air and analog cable) are not searched. This would be a useful feature to enable if the user was interested in only "collecting" digital channels in his channel list, or to acquire the newest digital channel that just recently started broadcasting. If the "Analog channels" checkbox is selected, then only analog channels (i.e., NTSC (analog air and analog cable) are searched; ATSC, 64QAM, 256QAM digital channels are not searched.

The fifth checkbox allows the user to select whether to detect the antenna or cable setting or not. Not detecting that setting during a channel search and just using the previously-detected or default setting would save time.

The last checkbox allows the user to select whether previously found channels should be searched for again or whether they should be skipped. Skipping the search for previously found channels would be useful when the signal on a particular RF input has not changed but perhaps a new channel or channel lineup (e.g., analog cable) became available.

The fewer the options selected, the faster the channel search should be. However, at least one input (cable or antenna) and one channel type (digital or analog) needs to be selected otherwise an error message is displayed which asks the user to correct the condition.

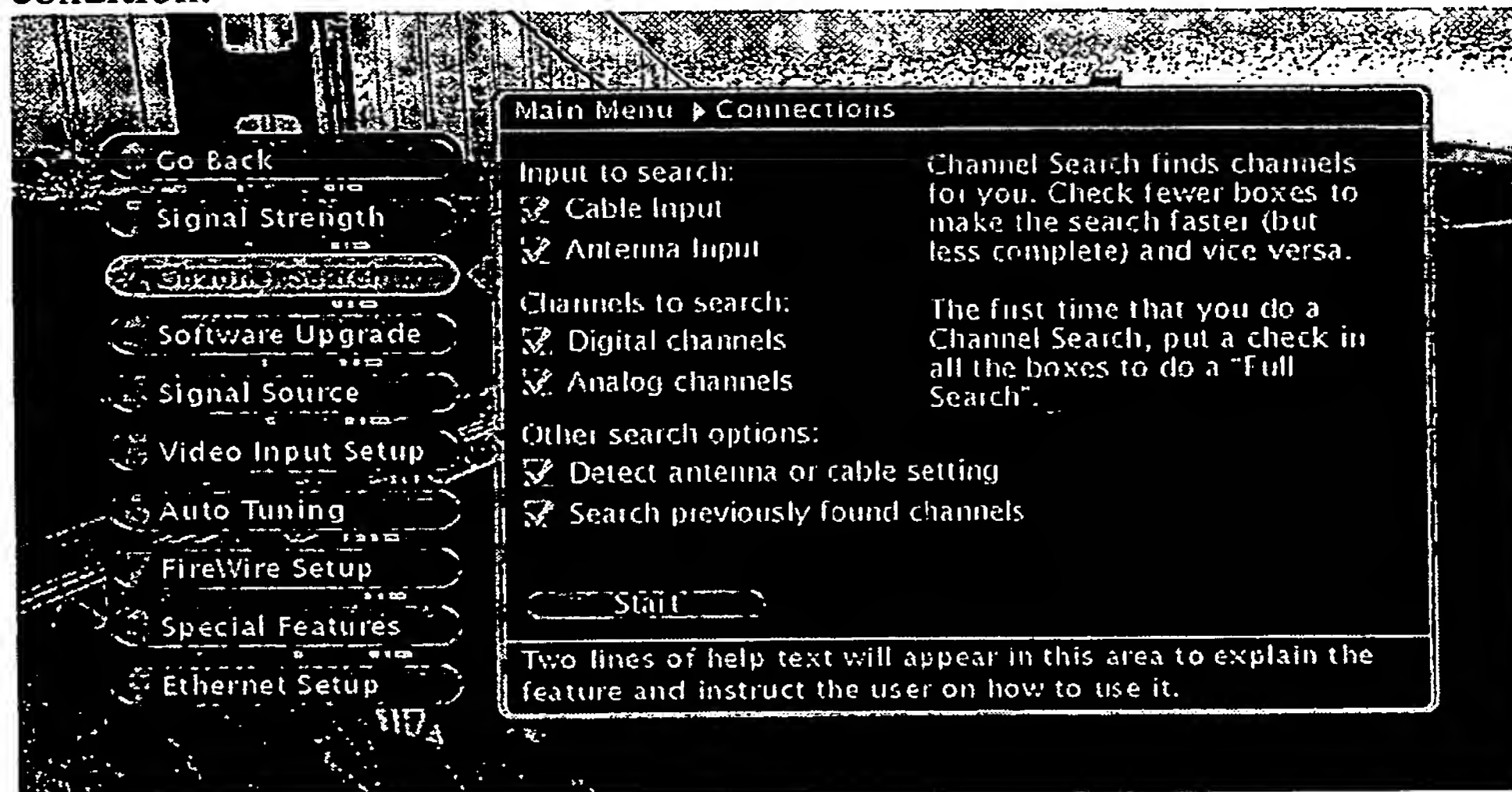


Figure 1 – Channel Search Screen

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